

Overview

The test is suitable for the photometric determination of Pb²⁺.
The test is suitable for surface water, ground and drinking water.

- Messbereich: 0.10–5.00 mg/L Pb²⁺ (method 0091/0093)
- Wavelength for photometric determination: 520/540 nm
- Number of tests: 20
- Shelf life: 12 months
- Reaction time: 3 minutes
- Storage temperature: 15–25 °C
- Storage conditions: upright

Method

Photometric determination with 4-(2-Pyridylazo)-resorcin (PAR).

Interferences

The following contaminants do not interfere with the test up to the indicated concentrations. The cumulative effect of different interfering ions has not been tested.

- EDTA: 0.1
- Fe²⁺, Fe³⁺, Cr: 1
- Al³⁺, Cr(VI), NO₃²⁻: 50
- Cd²⁺, Cl⁻, NH₄⁺, Cu²⁺, Ni²⁺, NO₂⁻, SCN⁻, SO₄²⁻, Zn²⁺, H₂O₂ : 100
- CH₃COO⁻, PO₄³⁻: 1000

This method is not suitable for analyzing seawater.

Reagents and accessories

Contents of reagents set:

- 20 test tubes R0
- 1 reagent R2
- 1 NANOFIX R3

Required devices:

- MACHEREY-NAGEL photometer
- Digital piston pipette 1–5 mL (REF 916909) with pipette tips (REF 916916)
- Digital piston pipette 50–200 µL (REF 916914) with pipette tips (REF 916915)
- Tweezers for sampling NANOFIX capsules (REF 916114)

Standards

- NANOCONTROL Multistandard Metals 2 (REF 925016)

Sampling and preparation

See DIN EN ISO 5667-3-A21.

Adjust to pH 3–6 prior to analysis.

Quality control

The measurement of a blank value and a standard is recommended before every measuring series as quality control measure.

Quality data:

The following data were determined during production according to ISO 8466-1 and DIN 38402-A51:

- Number of LOTs: 5
- Standard deviation of the method: ± 0.02 mg/L Pb²⁺
- Coefficient of variation of the process: ± 0.81 %
- Confidence interval: ± 0.09 mg/L Pb²⁺

Specified data for procedure:

- Sensitivity (absorbance of 0.010 A corresponds to): 0.06 mg/L Pb²⁺
- Accuracy of a measurement value: ± 0.06 mg/L Pb²⁺

LOT-specific certificates are available at www.mn-net.com.

Procedure

1. Open test tube
2. Add 0.2 mL R2
3. Mix
4. Pipette 4 mL of sample into test tube
5. Seal test tube and shake vigorously
6. Wait 3 min
7. Clean outside of test tube
8. Measure blank value
9. Open test tube again
10. Add 1 NANOFIX R3
11. Seal test tube and shake vigorously
12. Wait 3 min
13. Clean outside of test tube
14. Measure

Notes

When using other photometers, make sure measurements are possible in test tubes (16 mm OD) and calibrate the method.

Correction value already contained in the original test.

Only Pb²⁺ ions are detected. For the total lead determination, previous digestion with the digestion set (REF 91808) must be performed.

Information regarding safety can be found on the box' label and in the safety data sheet. You can download the SDS from www.mn-net.com/SDS.

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